The small-craft warnings were changed to storm warnings on the 9th and 13th after the receipt of special midday observations. Winds occurred as forecast.

In addition to the strong winds and moderate gales that occurred with the display of the warnings mentioned, a moderate northwest gale occurred at Galveston during the morning of the 19th. A local storm of more than ordinary intensity occurred on the east coast of Texas in the early morning of the 29th. The weather map of the preceding evening gave no indications of this local squall.—*R. A. Dyke.*

DENVER FORECAST DISTRICT.

An area of low pressure which extended southeastward from British Columbia during the 4th, with a center of marked intensity over eastern Colorado on the morning of the 5th, was attended by light to moderately heavy snows in this State and Utah during the 4th–5th. The remainder of the month was notable because of the unusual number of storms which developed on the middle and southern portions of the Rocky Mountain plateau or which moved southeastward from the north Pacific coast. Lows of the types referred to advanced across the Denver district on the 7th–8th, 11th–12th, 16th–18th, 22d–24th, 26th–27th, and the 28th–29th, while another disturbance was central over southern Utah on the 31st. The HIGHS as a rule, moved eastward from Oregon, Washington, or northern California.

Moderately heavy snows occurred in western Colorado on the 5th, in northern and eastern New Mexico on the 8th–9th, in northern Utah on the 10th–11th, and in northern Utah and southwestern Colorado on the 28th–29th. Heavy snows fell in northeastern Arizona and southwestern Colorado on the 11th–12th and the 16th–17th.

Warnings of heavy snow and stockmen's warnings were issued on the 11th for western Colorado, northwestern New Mexico, northern Arizona, and southern Utah and were justified, except in northwestern Colorado.

No cold-wave warnings were issued during the month. Moderate cold waves, without warnings, occurred in southwestern Colorado on the 6th, due to an increase in the intensity of a HIGH that was over California on the morning of the 5th, and in northeastern Colorado on the 28th, owing to the very rapid eastward movement of a LOW that was over the eastern portion of this State on the morning of the 27th and to the correspondingly rapid extension southward to Texas of a HIGH whose crest was over southern Saskatchewan on the last-named date. A local cold wave of moderate intensity also occurred at Santa Fe on the 18th.

Warnings of freezing temperature were issued for south-central and southeastern Arizona on the 1st, for southern New Mexico and south-central and southeastern Arizona on the 6th, and for temperatures near freezing in extreme southeastern New Mexico on the 19th and 28th. The warnings were verified, except in south-central and southeastern Arizona on the 7th and in extreme southeastern New Mexico on the 29th.

Frost warnings were issued for extreme southwestern Arizona on the 1st, 2d, 6th, 12th, and 18th and for southern New Mexico on the 25th and extreme southeastern New Mexico on the 19th, 26th, and 30th. These were generally verified by the actual occurrence of frost or temperatures at which frost might be expected, except in the most extreme southwest portion of Arizona on the 7th and 19th and in extreme southeastern New Mexico on the 27th.—*J. M. Sherier.*

SAN FRANCISCO FORECAST DISTRICT.

In this district the weather during March was much like that of the preceding month, the distinctive feature being the succession of storms moving inland at a latitude lower than usual. Near the coast the storms were less violent than those of February, but radio reports from vessels in the north Pacific showed the prevalence of strong gales in that region during the greater portion of the month.

The temperature was somewhat below normal, but there were no very cold or warm periods in any portion of the district.

There were more than the usual number of rainy days during the month, but the precipitation was nowhere excessive.

Warnings of heavy frost were issued five times in California, and while frosts occurred, they were not of a damaging nature.

Storm warnings were ordered 14 times, as follows: Washington and Oregon coast, 9; northern California coast, 4; southern California coast, 1; small craft, 2; and advisory, 2. The warnings were generally verified, and, judging from radio reports at sea, they are all believed to have been justified.

The many radio reports received from vessels in the north Pacific were of great assistance in keeping the forecaster in touch with approaching weather conditions.—*G. H. Willson.*

RIVERS AND FLOODS.

By H. C. FRANKENFIELD, Meteorologist.

The great flood in the extreme lower Ohio and lower Mississippi Rivers was in full progress at the close of the month, and the report thereon will be delayed until the flood has subsided.

Floods over the North Atlantic drainage area.—On March 8 rain, combined with high temperatures, melting snow, and the breaking of an ice gorge in the Connecticut River at White River Junction, Vt., caused a rapid rise to a stage of 16 feet, or 3 feet above the flood stage, by the morning of March 9. It so happened that the gorge broke without starting the ice, so that a warning issued on March 8 for flood stages below failed of verification by several feet. Similar meteorological conditions caused the ice in the upper Susquehanna River to move out on a rapidly rising river, with crests somewhat above the flood stage. The flood lasted but a few hours and the damage was slight.

On March 15 the ice in the White River of Connecticut moved out, causing another rapid rise in the Connecticut River at White River Junction, and at 4 p. m. the stage was 18.2 feet, 5.2 feet above the flood stage. There was not much rise below, and the ice did not begin to move out at Bellows Falls, Vt., until March 25. During the last week of the month moderate rains and high temperatures caused a rapid melting of the snow covering, and the greatest rise of the month set in, the ice also moving out from points above. The crest stages were as follows: White River Junction, Vt., 19.5 feet, 6.5 feet above flood stage, and Bellows Falls, Vt., 10.2 feet, 1.8 feet below flood stage, on March 30; Holyoke, Mass., 8.7 feet, 0.3 foot below flood stage, at midnight March 30–31, and Hartford, Conn., 19.9 feet, 3 feet above flood stage, on March 31. Warning of this flood was issued on March 28.

South Atlantic drainage area.—Heavy rains on March 2 and 3 caused general floods in the rivers of the Carolinas, and general warnings were issued on March 3 for floods in the main streams.

Warnings were issued on March 3, 4, 10, and 11, and were well verified as to flood occurrence, although in several instances crest stages were not quite as high as had been forecast. Although the floods were prolonged by additional heavy rains, the losses as reported in North Carolina totaled only $20,000, while the money value of property saved by the warnings was reported to have been $60,000.

The crest stage at Cheraw, S. C., on the Peedee River, was 33.5 feet, or 6.5 feet above flood stage on March 5. Additional rains in substantial amount on March 6, 7, and 10 again brought the river above flood stage and the floods extended to the Black, Lynches, and Waccamaw Rivers. Warnings were issued promptly for all rivers, and the reported value of property saved thereby was $71,200. Loss and damage reported to $13,000.

The Santee River had been in flood since February 3, so that the only material effect was a prolongation of the flood period, and the river was still above flood stage at the close of the month.

The Catawba River did not reach flood stage, but the Wateree at Camden, S. C., was above the flood stage of 24 feet from March 7 to 9, inclusive, with a crest stage of 27.2 feet on March 8. The Broad and Saluda Rivers were in moderate flood on March 11 and 12, and the Congaree on March 7 and 8, with a crest of 18.8, 3.8 feet above flood stage at Columbia, S. C., on March 7. There was also a second local and moderate flood in the Saluda River at Chappels, S. C., on March 21, when the river gage read 1.5 feet above the flood stage of 14 feet. Warnings were widely distributed whenever necessary. Losses amounting to $6,100 were reported in the swamp regions below Columbia and Camden, S. C., but the section had been in flood so long that very little live stock could enter the swamps. Estimated money value of property saved through warnings, $44,000.

Although flood stages were reached in the upper Savannah River on March 11 and 12, nothing of interest occurred and there was no damage done.

The rainfall was so heavy and the rises in the Oconee and Ocmulgee Rivers of Georgia were so rapid during the night of March 6–7 that it was impossible to issue local flood warnings at Milledgeville and Macon, although ample warnings were given to points below. The 24-hour rain at Milledgeville was 5.50 inches and the rise in the river 20.4 feet, while at Macon they were 6.37 inches and 11 feet, respectively. Another less excessive rain that occurred on March 10 started another rise in both rivers before they had had an opportunity to fall to normal conditions, and another severe flood resulted, for which warnings had previously been issued.

The damage was great. Bridges were washed away, washouts occurred on railroads, and crops and lumber interests suffered severely. It has been impossible to obtain estimates of losses.

The floods in the Apalachicola drainage basin were neither as severe nor as disastrous as in the Altamaha Basin, and the damage was slight. Warnings were issued well in advance of the flood.

The flood in the Pearl River of Mississippi was quite decided and prolonged, although the damage was not extensive, as crops had not yet been planted. The flood began on the last day of February and continued until March 25, with a crest stage of 28.8 feet at Jackson, Miss., or 8.8 feet above flood stage, on March 11. Heavy rains fell on March 30 and 31, and another flood set in during March 31 and continued beyond the first week of April, with a crest stage at Jackson of 27.6 feet on April 6.

Warnings were issued frequently and the total losses reported amounted to $8,500. The value of property saved through the warnings was about $11,000. There were no other floods of consequence in the Pascagoula system.

There were moderate floods in the lower Black Warrior and lower Tombigbee Rivers early in the month and again about the middle of the month, for both of which timely warnings were issued. At Demopolis, Ala., the overflow continued for about three weeks from March 4, with a crest stage of 56.5 feet, 17.5 feet above flood stage, on March 19 and 20. The crest stage at Tuscaloosa, Ala., on the Black Warrior River, was 56.2 feet, 10.2 feet above flood stage, on March 12. A peculiarity of this flood was the unprecedentedly small rise of the Tombigbee River at Columbus, Miss., and Cochrane, Ala., a rainfall of 5.8 inches raising the river at Columbus only 4.7 feet in 4 days.

The warnings were of great value to lumbermen by affording them ample opportunity to make preparations for floating out lumber from the lowlands as well as to others who were enabled to remove portable property.

Ohio Basin.—The Ohio River flood began after the heavy rains of March 14 and 15. The flood was a very moderate one above Cincinnati, and flood stages were not reached, except in a very few localities. At Cincinnati the crest stage of 52.2 feet, at 4 p. m., March 18, was too low to cause any damage. From the mouth of the Kentucky River to Louisville, Ky., the crest stages were also only slightly in excess of the flood stages, but from Cloverport, Ky., to the mouth of the river they were from 6.5 to 8.5 feet above.

Crest stages were as follows:

Station.	Flood stage.	Crest stage.	Date.
Cincinnati, Ohio	52	52.2	Mar. 18.
Madison, Ind.	46	46.1	Mar. 19.
Louisville, Ky.	28	30.2	Mar. 19.
Cloverport, Ky.	40	46.4	Mar. 20.
Evansville, Ind.	35	42.9	Mar. 21.
Henderson, Ky.	33	41.3	Mar. 21 and 22.
Mount Vernon, Ind.	35	43.5	Mar. 23.
Shawneetown, Ill.	35	.....	
Paducah, Ky.	43	48.8	Mar. 24 and 25.
Cairo, Ill.	45	53.6	Mar. 26 and 27.

There were also two floods in the Barren and upper Green Rivers of Kentucky, and a continuous flood in the lower Green River, all of which were forecast at the proper time.

There were no material losses during these floods. Shippingport, a suburb of Louisville, was flooded as to its streets and yards, but the residents upon the advice of the Weather Bureau remained in their homes.

The floods in the Wabash and White Rivers of Indiana continued at the close of the month, and report thereon will be made later with that on the Ohio River flood from the mouth of the Wabash to Cairo, Ill.

The floods in the Cumberland and Tennessee Rivers will be described in the later report on the lower Mississippi flood.

Lake Erie drainage.—There was a moderate local flood on March 15 in the Maumee River at Fort Wayne, Ind. It was due to the rains of March 14, and the crest stage was only 0.4 foot above the flood stage of 15 feet. The

heavy rains at the end of the month caused a general and more pronounced flood in the Maumee River and its tributaries during March 31 and the early days of April. The crest stage at Fort Wayne was 19.4 feet at 7 a. m., April 1, but at other points on the rivers the crest stages were not as high proportionately except in the St. Joseph River.

Very accurate warnings were issued for the floods and there was no damage of consequence. Access to some homes in Fort Wayne was cut off by the high water, and there was a little damage from seepage.

The heavy rains near the middle of the month of March were very widely distributed, and the flood area extended west of the Mississippi River into the central West. They occurred mainly in eastern Kansas, and were of moderate character, except over limited areas. A local cloud-burst over the drainage area of Rock Creek, a small tributary of the Neosho River, at Burlington, Kans., flooded the city during the night of March 23, killing four persons and doing damage to an estimated amount of $750,000. It was reported that at the height of the flood a wall of water 12 feet high rushed through the business section of the city.

The floods in the larger rivers were forecast, and the damage was small.

A severe flood, caused by an ice gorge in the Rock River, occurred at Dixon, Ill., beginning on March 2, and continued for several days. Many families were driven from their homes, the city gas plant was flooded, causing a fuel famine, and much business was interrupted.

There were no floods in the far West.

MOVEMENT OF ICE.

The ice in the Mississippi River moved out at St. Paul, Minn., during the night of March 4 and 5, at La Crosse, Wis., on March 16; and at Dubuque, Iowa, on March 6. Below Dubuque the river was open. In the Missouri River the ice at Sioux City, Iowa, moved out on March 13; at Yankton, S. Dak., on March 15; and at Chamberlain, S. Dak., on March 16; and at Pierce, S. S. Dak., on March 17. There was no attendant high water.

Flood stages during March, 1922.

River and station.	Flood stage.	Above flood stages—dates. From—	To—	Crest. Stage.	Date.
ATLANTIC DRAINAGE.					
Connecticut:	*Feet.*			*Feet.*	
White River Junction, Vt.	13	8	12	16.0	9
Do.	13	15	15	18.2	15
Do.	13	28	(**)	19.5	30
Hartford, Conn.	16	30	(**)	19.9	31
Susquehanna:					
Bainbridge, N. Y.	11	8	8	12.7	8
Chenango:					
Greene, N. Y.	8	8	8	8.4	8
James:					
Columbia, Va.	18	12	12	19.0	12
Do.	18	16	17	19.8	16
Roanoke:					
Randolph, Va.	21	5	5	21.6	5
Weldon, N. C.	30	4	8	39.6	6
Do.	30	11	14	35.4	13
Tar:					
Rocky Mount, N. C.	9	5	9	10.4	6
Tarboro, N. C.	18	5	16	25.2	9
Greenville, N. C.	14	4	18	19.1	11
Fishing Creek:					
Enfield, N. C.	14	5	7	15.6	6
Neuse:					
Neuse, N. C.	14	3	14	18.6	5
Smithfield, N. C.	14	4	15	19.6	6
Cape Fear:					
Elizabethtown, N. C.	22	4	16	31.7	7
Fayetteville, N. C.	35	5	13	44.3	6

** Continued into April.

Flood stages during March, 1922—Continued.

River and station.	Flood stage.	Above flood stages—dates. From—	To—	Crest. Stage.	Date.
ATLANTIC DRAINAGE—continued.					
Pedee:	*Feet.*			*Feet.*	
Cheraw, S. C.	27	4	6	33.5	5
Do.	27	8	9	31.3	8
Do.	27	12	13	30.2	12
Lynches:					
Effingham, S. C.	14	10	15	17.3	12
Black:					
Kingstree, S. C.	12	12	17	12.6	14-15
Santee:					
Rimini, S. C.	12	(*)	(**)	18.0	11
Ferguson, S. C.	12	(*)	(**)	14.2	13
Wateree:					
Camden, S. C.	24	7	9	27.2	8
Do.	24	12	12	24.2	12
Congaree:					
Columbia, S. C.	15	7	8	18.8	7
Broad:					
Blairs, S. C.	15	11	12	15.5	11-12
Carlton, Ga.	11	11	11	15.8	11
Saluda:					
Pelzer, S. C.	7	11	12	9.0	11
Chappells, S. C.	14	8	8	16.0	8
Do.	14	11	14	17.0	12
Do.	14	21	21	15.5	21
Savannah:					
Augusta, Ga.	32	12	12	32.0	12
Oconee:					
Milledgeville, Ga.	22	7	9	32.0	7
Do.	22	11	18	29.2	12
Do.	22	21	21	22.0	21
Dublin, Ga.	22	10	11	24.3	10
Do.	22	14	15	23.6	14
Ocmulgee:					
Macon, Ga.	18	7	8	20.8	7
Do.	18	11	13	23.2	11
Hawkinsville, Ga.	29	14	14	29.0	14
Abbeville, Ga.	11	9	22	16.4	12,16
Do.	11	25	29	12.3	27
Lumber City, Ga.	15	14	23	18.5	16
EAST GULF DRAINAGE.					
Apalachicola:					
River Junction, Fla.	12	4	(**)	23.8	15
Blountstown, Fla.	15	5	(**)	22.2	16
Flint:					
Woodbury, Ga.	10	8	8	10.0	8
Do.	10	11	12	12.2	11
Montezuma, Ga.	20	9	10	21.2	10
Do.	20	13	13	20.9	13
Albany, Ga.	20	11	19	26.8	16
Bainbridge, Ga.	25	15	20	26.6	18
Chattahoochee:					
West Point, Ga.	20	11	11	20.0	11
Eufaula, Ala.	40	8	10	46.6	9
Do.	40	13	13	40.6	13
Alaga, Ala.	30	8	15	37.6	10
Alabama:					
Montgomery, Ala.	35	8	17	48.0	13
Selma, Ala.	35	7	23	49.6	14
Tallaposa:					
Milstead, Ala.	40	8	8	44.0	8
Do.	40	11	11	40.1	11
Coosa:					
Gadsden, Ala.	22	11	17	23.2	12-13
Lock No. 4, Lincoln, Ala.	17	10	18	20.5	11
Wetumpka, Ala.	45	11	13	47.0	12
Etowah:					
Canton, Ga.	11	11	11	11.1	11
Cahaba:					
Centerville, Ala.	25	11	11	25.0	11
Tombigbee:					
Aberdeen, Miss.	33	4	5	33.5	4
Do.	33	14	14	33.1	14
Lock No. 4, Demopolis, Ala.	39	3	27	56.5	19-20
Black Warrior:					
Lock No. 10, Tuscaloosa, Ala.	46	3	5	53.0	3
Do.	46	11	13	56.2	12
Chickasawhay:					
Enterprise, Miss.	21	3	4	23.0	3
Pearl:					
Edinburg, Miss.	21	4	6	22.4	5
Do.	21	13	15	22.3	14
Jackson, Miss.	20	1	25	28.8	11
Columbia, Miss.	18	4	27	19.9	13,18
West Pearl:					
Pearl River, La.	13	4	(**)	15.5	29
GREAT LAKES DRAINAGE.					
Maumee:					
Fort Wayne, Ind.	15	31	(**)	18.4	31
St. Joseph:					
Montpelier, Ohio.	10	11	11	10.0	11
Do.	10	31	(**)	11.0	31
Auglaize:					
Defiance, Ohio.	10	31	31	10.0	31

* Continued from February.
** Continued into April.

Flood stages during March, 1922—Continued.

River and station.	Flood stage.	Above flood stages—dates. From—	To—	Crest. Stage.	Date.
MISSISSIPPI DRAINAGE.					
Ohio:	*Feet.*			*Feet.*	
Portsmouth, Ohio	50	17	17	51.0	17
Dam No. 35, Oneonta, Ky	45	17	19	46.6	18
Cincinnati, Ohio	50	16	20	52.2	18
Madison, Ind	46	19	19	46.1	19
Louisville, Ky	28	16	21	30.2	19
Cloverport, Ky	40	16	24	46.4	20
Evansville, Ind	35	14	28	42.9	21
Henderson, Ky	33	15	28	41.3	21-22
Dam No. 48, Ind	42	15	28	49.5	22
Mount Vernon, Ind	35	15	30	43.5	23
Shawneetown, Ill	35	15	(**)	47.6	25
Paducah, Ky	43	17	(**)	48.8	24
Cairo, Ill	45	16	(**)	53.6	25-27
Tuscarawas:					
Norris Point, Ohio	8	31	(**)	8.3	31
Hocking:					
Athens, Ohio	17	15	16	19.8	16
Scioto:					
Circleville, Ohio	10	15	16	11.7	16
Chillicothe, Ohio	16	16	16	16.5	16
Kentucky:					
Beattyville, Ky	30	11	11	31.2	11
Green:					
Lock No. 6, Brownsville, Ky	30	4	5	32.4	5
Do	30	17	17	30.5	17
Lock No. 4, Woodbury, Ky	33	3	8	40.7	5
Do	33	11	20	40.4	17
Lock No. 2, Rumsey, Ky	34	(*)	2	35.1	1
Do	34	6	30	40.8	21-22
Big Barren:					
Bowling Green, Ky	20	3	3	25.3	3
Wabash:					
Lafayette, Ind	11	12	18	17.4	16
Do	11	29	(**)	16.5	31
Terre Haute, Ind	16	15	23	19.7	16
Vincennes, Ind	14	17	29	18.9	21
Do	14	31	(**)	14.7	31
Mount Carmel, Ill	15	16	(**)	24.1	22-23
White:					
Decker, Ind	18	18	28	24.6	22
Do	18	31	(**)	18.3	31
Georgetown, Ark	22	17	22	22.4	21
Do	22	31	(**)	22.1	31
East Fork of White:					
Williams, Ind	10	18	23	15.4	19
Shoals, Ind	20	19	23	26.3	20
West Fork of White:					
Anderson, Ind	12	15	16	12.1	15
Noblesville, Ind	14	16	16	14.0	16
Elliston, Ind	19	15	22	26.3	17
Do	19	31	(**)	21.6	31
Cumberland:					
Carthage, Tenn	40	3	6	44.0	4
Do	40	12	16	43.5	12
Nashville, Tenn	40	3	20	45.1	12
Clarksville, Tenn	46	4	21	51.3	16
French Broad:					
Penrose, N. C	13	28	28	14.1	28
North Fork of Holston:					
Mendota, Va	8	11	11	8.2	11
Do	8	16	16	8.7	16
Hiwassee:					
Charleston, Tenn	22	11	11	22.6	11
Tennessee:					
Knoxville, Tenn	12	11	12	13.0	12
Guntersville, Ala	31	15	15	31.0	15
Florence, Ala	18	3	8	20.0	5
Do	18	10	18	21.5	11
Savannah, Tenn	40	10	21	43.5	16
Riverton, Ala	32	3	22	42.8	11
Johnsonville, Tenn	31	7	7	31.0	7
Do	31	10	24	36.4	15
Duck:					
Columbia, Tenn	30	2	3	32.0	3
Do	30	10	11	31.4	11
Mississippi:					
Louisiana, Mo	12	16	16	12.3	16
Grafton, Ill	18	17	17	18.4	17
Alton, Ill	21	16	19	23.0	17
Do	21	27	(**)	22.4	28
Cape Girardeau, Mo	30	28	(**)	30.8	29
New Madrid, Mo	34	16	(**)	41.6	27-28
Memphis, Tenn	35	20	(**)	42.6	31
Helena, Ark	42	19	(**)	51.4	31
Arkansas City, Ark	42	17	(**)	53.0	31
Greenville, Miss	42	28	(**)	45.4	31
Vicksburg, Miss	45	28	(**)	47.6	31
Natchez, Miss	46	31	(**)	46.2	31
New Orleans, La	18	31	(**)	18.0	31
Illinois:					
Morris, Ill	13	21	22	13.6	21
Do	13	31	(**)	14.1	31
Peru, Ill	14	13	(**)	17.9	31
Henry, Ill	7	12	(**)	12.1	31
Peoria, Ill	16	19	(**)	19.2	31
Havana, Ill	14	20	(**)	16.9	31
Beardstown, Ill	12	14	(**)	18.8	31
Pearl, Ill	12	16	(**)	16.3	31

** Continued into April.
* Continued from February.

Flood stages during March, 1922—Continued.

River and station.	Flood stage.	Above flood stages—dates. From—	To—	Crest. Stage.	Date.
MISSISSIPPI DRAINAGE—Continued.					
Missouri:	*Feet.*			*Feet.*	
St. Charles, Mo	25	27	27	25.4	27
Osage:					
Osceola, Mo	20	19	22	21.8	20
Do	20	31	(**)	20.0	31
Warsaw, Mo	22	15	22	26.7	15
Do	22	31	(**)	23.9	31
Tuscumbia, Mo	25	17	22	26.0	21
Do	25	31	(**)	26.7	31
Meramec:					
Pacific, Mo	11	16	17	12.7	16
Do	11	28	29	12.2	28
Bourbeuse:					
Union, Mo	10	15	16	11.3	16
Do	10	28	28	11.6	28
St. Francis:					
Marked Tree, Ark	17	28	(**)	18.1	31
Yazoo:					
Yazoo City, Miss	25	21	(**)	29.1	31
Tallahatchie:					
Swan Lake, Miss	25	5	(**)	29.2	19-21
Ouachita:					
Camden, Ark	30	30	(**)	32.1	31
James:					
Huron, S. Dak	9	16	(**)	16.5	22
Neosho:					
Le Roy, Kans	24	25	25	24.8	25
Iola, Kans	10	18	18	10.2	18
Do	10	25	26	18.4	26
North Canadian:					
Woodward, Okla	3	11	11	3.2	11
Do	3	13	23	6.0	15
Canton, Okla	3	15	17	4.1	16
Oklahoma City, Okla	12	22	22	12.1	22
Arkansas:					
Wichita, Kans	9	15	16	10.2	15
Little Arkansas:					
Sedgwick, Kans	18	14	15	23.4	14
Petit Jean:					
Danville, Ark	20	31	(**)	20.1	31
Black:					
Black Rock, Ark	14	10	(**)	20.7	31
Cache:					
Patterson, Ark	9	11	(**)	10.2	31
Sulphur:					
Finley, Tex	24	31	(**)	25.4	31
Ringo Crossing, Tex	20	27	28	22.5	27
WEST GULF DRAINAGE.					
Trinity:					
Liberty, Tex	25	4	6	25.4	5
Do	25	30	(**)	25.5	31
Sabine:					
Logansport, La	25	30	30	27.8	30
Bon Wier, Tex	20	5	15	20.4	6-7
Do	20	31	(**)	20.0	31
Neches:					
Rockland, Tex	20	4	6	21.4	4
Do	20	30	(**)	26.2	31
Guadalupe:					
Gonzales, Tex	22	30	30	31.2	30
Colorado:					
Lees Ferry, Ariz	12	22	22	12.5	22

** Continued into April.

CHANGES IN RIVER DISTRICTS.

The following changes in river districts became effective on February 1, 1922:

The district of Iola, Kans., and its territory, consisting of the drainage area of the Neosho River from Oswego, Kans., northward, were reassigned to the district of Fort Smith, Ark.

The district of San Antonio, Tex., was created with territory comprising the drainage areas of the Colorado (Texas), Guadalupe, Neches, and San Antonio Rivers, and the Rio Grande from El Paso to its mouth. These rivers were formerly in the Houston, Tex., district.

The jurisdiction of the Omaha, Nebr., center was extended so as to embrace the entire watershed of the Platte River and river stations were opened at Fort Morgan, Colo.; Torrington, Wyo.; North Platte (both rivers), Lexington, Central City, and Fremont, Nebr.

The territory of the St. Louis, Mo., district was extended so as to embrace those portions of the drainage